

Amendments to the Claims

This listing of claims will replace all prior listings of claims in the application.

Listing of Claims

1.-3. (Canceled)

4. (Previously Presented) The induction heating apparatus according to claim 19, wherein said current controller has a timer for stopping or reducing temporarily the power application of the high-frequency current to said heating inductor when a time measured by the timer reaches a predetermined elapsed time from the start of the power application of the high-frequency current to said heating inductor.

5. (Previously Presented) The induction heating apparatus according to claim 19, wherein said current controller has a temperature measurer for measuring the temperature of the region to be heated and stops or reduces temporarily the power application of the high-frequency current to said heating inductor when the temperature of the region to be heated becomes a predetermined temperature.

6. (Canceled)

7. (Previously Presented) The induction heating apparatus according to claim 19, wherein said heating inductor comprises a plurality of good conductors having an inductive portion which extends along an extending direction of the region to be heated and is arranged side by side in a direction perpendicular to the extending direction so that the region to be heated is covered, and the plural good conductors are connected in parallel.

8. (Previously Presented) The induction heating apparatus according to claim 19, further comprising a quencher for quenching at least the region to be heated after the region reaches the temperature of at least equal to the target temperature.

9.-18. (Canceled)

19. (Currently Amended) An induction heating apparatus for heating a region of a thin sheet by inductive heating to a temperature at least equal to a target temperature which is higher than a magnetic transformation point of the thin sheet, said apparatus comprising:

a heating inductor comprising an inductive portion for heating inductively the entire region of the thin sheet simultaneously;

a power supply device for applying a high-frequency current to the heating inductor; and

a current controller for reducing the application of the high-frequency current to the heating inductor to allow the temperatures throughout the entire region of the thin sheet to become more equalized and then for increasing the application of the high-frequency current to the heating inductor to increase the temperature of the entire region of the thin sheet to the temperature at least equal to the target temperature, said current controller having a frequency tracker for tracking the high-frequency current of the heating inductor corresponding to an impedance of the region to be heated, and stopping or reducing temporarily the power application of the high-frequency current to said heating inductor when a resonant frequency of the high-frequency current becomes a predetermined frequency.

20. (Previously Presented) The induction heating apparatus of Claim 19, wherein the current controllers stops

the application of high frequency current to the heating inductor to allow the temperatures throughout the entire region of the thin sheet to become more equalized.